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SEQUENCE LISTING

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<120> CD147 BINDING MOLECULES AS THERAPEUTICS

<130> ABX-CBL/CD147 CON

<140> 09/784,950

<141> 2001-02-15

<150> PCT/US99/04583

<151> 1999-03-03

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<150> 09/034,607

<151> 1998-03-03

<160> 107

<170> PatentIn Ver. 3.3

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 Thr Asn Asp Ile Gly Leu Arg Gln Arg Ser His Ser
 1 5 10

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 Ser Pro Leu Leu Asp Gly Gln Arg Glu Arg Ser Tyr
 1 5 10

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 Tyr Asp Leu Pro Met Arg Ser Arg Ser Tyr Pro Gly
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 Arg Xaa Arg Ser
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 Lys Gly Ser Asp Gln Ala Ile Ile Thr Leu Arg Val Arg Ser His
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Arg Xaa Arg Ser His
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Met Ala Ala Ala Leu Phe Val Leu Leu Gly Phe Ala Leu Leu Gly Thr
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His Gly Ala Ser Gly Ala Ala Gly Thr Val Phe Thr Thr Val Glu Asp
 20 25 30

Leu Gly Ser Lys Ile Leu Leu Thr Cys Ser Leu Asn Asp Ser Ala Thr
 35 40 45

Glu Val Thr Gly His Arg Trp Leu Lys Gly Gly Val Val Leu Lys Glu
 50 55 60

Asp Ala Leu Pro Gly Gln Lys Thr Glu Phe Lys Val Asp Ser Asp Asp
 65 70 75 80

Gln Trp Gly Glu Tyr Ser Cys Val Phe Leu Pro Glu Pro Met Gly Thr
 85 90 95

Ala Asn Ile Gln Leu His Gly Pro Pro Arg Val Lys Ala Val Lys Ser
 100 105 110

Ser Glu His Ile Asn Glu Gly Glu Thr Ala Met Leu Val Cys Lys Ser
 115 120 125

Glu Ser Val Pro Pro Val Thr Asp Trp Ala Trp Tyr Lys Ile Thr Asp
 130 135 140

Ser Glu Asp Lys Ala Leu Met Asn Gly Ser Glu Ser Arg Phe Phe Val
 145 150 155 160

Ser Ser Ser Gln Gly Arg Ser Glu Leu His Ile Glu Asn Leu Asn Met
 165 170 175

Glu Ala Asp Pro Gly Gln Tyr Arg Cys Asn Gly Thr Ser Ser Lys Gly
 180 185 190

Ser Asp Gln Ala Ile Ile Thr Leu Arg Val Arg Ser His Leu Ala Ala
 195 200 205

Leu Trp Pro Phe Leu Gly Ile Val Ala Glu Val Leu Val Leu Val Thr
 210 215 220

Ile Ile Phe Ile Tyr Glu Lys Arg Arg Lys Pro Glu Asp Val Leu Asp
 225 230 235 240

Asp Asp Asp Ala Gly Ser Ala Pro Leu Lys Ser Ser Gly Gln His Gln
 245 250 255

Asn Asp Lys Gly Lys Asn Val Arg Gln Arg Asn Ser Ser
 260 265

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 Pro Glu Arg Ile Leu Ser Ile
 1 5

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 Gly Gly Ser Arg Ala Arg Asn Leu Pro
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 Met Glu Thr Glu Gln Pro Glu Glu Thr Phe Pro Asn Thr Glu Thr Asn
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Gly Glu Phe Gly Lys Arg Pro Ala Glu Asp Met Glu Glu Glu Gln Ala
 20 25 30

Phe Lys Arg Ser Arg Asn Thr Asp Glu Met Val Glu Leu Arg Ile Leu
 35 40 45

Leu Gln Ser Lys Asn Ala Gly Ala Val Ile Gly Lys Gly Gly Lys Asn
 50 55 60

Ile Lys Ala Leu Arg Thr Asp Tyr Asn Ala Ser Val Ser Val Pro Asp
 65 70 75 80

Ser Ser Gly Pro Glu Arg Ile Leu Ser Ile Ser Ala Asp Ile Glu Thr
 85 90 95

Ile Gly Glu Ile Leu Lys Lys Ile Ile Pro Thr Leu Glu Glu Gly Leu
 100 105 110

Gln Leu Pro Ser Pro Thr Ala Thr Ser Gln Leu Pro Leu Glu Ser Asp
 115 120 125

Ala Val Glu Cys Leu Asn Tyr Gln His Tyr Lys Gly Ser Asp Phe Asp
 130 135 140

Cys	Glu	Leu	Arg	Leu	Leu	Ile	His	Gln	Ser	Leu	Ala	Gly	Gly	Ile	Ile	145	150	155	160
Gly	Val	Lys	Gly	Ala	Lys	Ile	Lys	Glu	Leu	Arg	Glu	Asn	Thr	Gln	Thr	165	170	175	
Thr	Ile	Lys	Leu	Phe	Gln	Glu	Cys	Cys	Pro	His	Ser	Thr	Asp	Arg	Val	180	185	190	
Val	Leu	Ile	Gly	Gly	Lys	Pro	Asp	Arg	Val	Val	Glu	Cys	Ile	Lys	Ile	195	200	205	
Ile	Leu	Asp	Leu	Ile	Ser	Glu	Ser	Pro	Ile	Lys	Gly	Arg	Ala	Gln	Pro	210	215	220	
Tyr	Asp	Pro	Asn	Phe	Tyr	Asp	Glu	Thr	Tyr	Asp	Tyr	Gly	Gly	Phe	Thr	225	230	235	240
Met	Met	Phe	Asp	Asp	Arg	Arg	Gly	Arg	Pro	Val	Gly	Phe	Pro	Met	Arg	245	250	255	
Gly	Arg	Gly	Gly	Phe	Asp	Arg	Met	Pro	Pro	Gly	Arg	Gly	Gly	Arg	Pro	260	265	270	
Met	Pro	Pro	Ser	Arg	Arg	Asp	Tyr	Asp	Asp	Met	Ser	Pro	Arg	Arg	Gly	275	280	285	
Pro	Pro	Pro	Pro	Pro	Pro	Gly	Arg	Gly	Gly	Arg	Gly	Gly	Ser	Arg	Ala	290	295	300	
Arg	Asn	Leu	Pro	Leu	Pro	Pro	Pro	Pro	Pro	Pro	Arg	Gly	Gly	Asp	Leu	305	310	315	320
Met	Ala	Tyr	Asp	Arg	Arg	Gly	Arg	Pro	Gly	Asp	Arg	Tyr	Asp	Gly	Met	325	330	335	
Val	Gly	Phe	Ser	Ala	Asp	Glu	Thr	Trp	Asp	Ser	Ala	Ile	Asp	Thr	Trp	340	345	350	
Ser	Pro	Ser	Glu	Trp	Gln	Met	Ala	Tyr	Glu	Pro	Gln	Gly	Gly	Ser	Gly	355	360	365	
Tyr	Asp	Tyr	Ser	Tyr	Ala	Gly	Gly	Arg	Gly	Ser	Tyr	Gly	Asp	Leu	Gly	370	375	380	
Gly	Pro	Ile	Ile	Thr	Thr	Gln	Val	Thr	Ile	Pro	Lys	Asp	Leu	Ala	Gly	385	390	395	400
Ser	Ile	Ile	Gly	Lys	Gly	Gly	Gln	Arg	Ile	Lys	Gln	Ile	Arg	His	Glu	405	410	415	
Ser	Gly	Ala	Ser	Ile	Lys	Ile	Asp	Glu	Pro	Leu	Glu	Gly	Ser	Glu	Asp	420	425	430	
Arg	Ile	Ile	Thr	Ile	Thr	Gly	Thr	Gln	Asp	Gln	Ile	Gln	Asn	Ala	Gln	435	440	445	

Tyr Leu Leu Gln Asn Ser Val Lys Gln Tyr Ser Gly Lys Phe Phe
 450 455 460

<210> 18

<211> 570

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<213> Mus musculus

<400> 18

Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45

Ala Glu Ile Arg Leu Lys Ser Asn Asn Tyr Ala Thr His Tyr Ala Glu
 50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
 85 90 95

Tyr Cys Thr Asp Tyr Asp Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110

Val Ser Ala Glu Ser Gln Ser Phe Pro Asn Val Phe Pro Leu Val Ser
 115 120 125

Cys Glu Ser Pro Leu Ser Asp Lys Asn Leu Val Ala Met Gly Cys Leu
 130 135 140

Ala Arg Asp Phe Leu Pro Ser Thr Ile Ser Phe Thr Trp Asn Tyr Gln
 145 150 155 160

Asn Asn Thr Glu Val Ile Gln Gly Ile Arg Thr Phe Pro Thr Leu Arg
 165 170 175

Thr Gly Gly Lys Tyr Leu Ala Thr Ser Gln Val Leu Leu Ser Pro Lys
 180 185 190

Ser Ile Leu Glu Gly Ser Asp Glu Tyr Leu Val Cys Lys Ile His Tyr
 195 200 205

Gly Gly Lys Asn Arg Asp Leu His Val Pro Ile Pro Ala Val Ala Glu
 210 215 220

Met Asn Pro Asn Val Asn Val Phe Val Pro Pro Arg Asp Gly Phe Ser
 225 230 235 240

Gly Pro Ala Pro Arg Lys Ser Lys Leu Ile Cys Glu Ala Thr Asn Phe
 245 250 255

Thr	Pro	Lys	Pro	Ile	Thr	Val	Ser	Trp	Leu	Lys	Asp	Gly	Lys	Leu	Val	260	265	270	
Glu	Ser	Gly	Phe	Thr	Thr	Asp	Pro	Val	Thr	Ile	Glu	Asn	Lys	Gly	Ser	275	280	285	
Thr	Pro	Gln	Thr	Tyr	Lys	Val	Ile	Ser	Thr	Leu	Thr	Ile	Ser	Glu	Ile	290	295	300	
Asp	Trp	Leu	Asn	Leu	Asn	Val	Tyr	Thr	Cys	Arg	Val	Asp	His	Arg	Gly	305	310	315	320
Leu	Thr	Phe	Leu	Lys	Asn	Val	Ser	Ser	Thr	Cys	Ala	Ala	Ser	Pro	Ser	325	330	335	
Thr	Asp	Ile	Leu	Thr	Phe	Thr	Ile	Pro	Pro	Ser	Phe	Ala	Asp	Ile	Phe	340	345	350	
Leu	Ser	Lys	Ser	Ala	Asn	Leu	Thr	Cys	Leu	Val	Ser	Asn	Leu	Ala	Thr	355	360	365	
Tyr	Glu	Thr	Leu	Asn	Ile	Ser	Trp	Ala	Ser	Gln	Ser	Gly	Glu	Pro	Leu	370	375	380	
Glu	Thr	Lys	Ile	Lys	Ile	Met	Glu	Ser	His	Pro	Asn	Gly	Thr	Phe	Ser	385	390	395	400
Ala	Lys	Gly	Val	Ala	Ser	Val	Cys	Val	Glu	Asp	Trp	Asn	Asn	Arg	Lys	405	410	415	
Glu	Phe	Val	Cys	Thr	Val	Thr	His	Arg	Asp	Leu	Pro	Ser	Pro	Gln	Lys	420	425	430	
Lys	Phe	Ile	Ser	Lys	Pro	Asn	Glu	Val	His	Lys	His	Pro	Pro	Ala	Val	435	440	445	
Tyr	Leu	Leu	Pro	Pro	Ala	Arg	Glu	Gln	Leu	Asn	Leu	Arg	Glu	Ser	Ala	450	455	460	
Thr	Val	Thr	Cys	Leu	Val	Lys	Gly	Phe	Ser	Pro	Ala	Asp	Ile	Ser	Val	465	470	475	480
Gln	Trp	Leu	Gln	Arg	Gly	Gln	Leu	Leu	Pro	Gln	Glu	Lys	Tyr	Val	Thr	485	490	495	
Ser	Ala	Pro	Met	Pro	Glu	Pro	Gly	Ala	Pro	Gly	Phe	Tyr	Phe	Thr	His	500	505	510	
Ser	Ile	Leu	Thr	Val	Thr	Glu	Glu	Glu	Trp	Asn	Ser	Gly	Glu	Thr	Tyr	515	520	525	
Thr	Cys	Val	Val	Gly	His	Glu	Ala	Leu	Pro	His	Leu	Val	Thr	Glu	Arg	530	535	540	
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Ala	Ser	Gln	Ser	Val	Ser	Asn	Asp	Val	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	
			20					25					30			
Gly	Gln	Ser	Pro	Lys	Leu	Leu	Ile	Tyr	Tyr	Ala	Ser	Asn	Arg	Tyr	Thr	
		35					40					45				
Gly	Val	Pro	Asp	Arg	Phe	Thr	Gly	Ser	Gly	Tyr	Gly	Thr	Asp	Phe	Thr	
	50					55					60					
Phe	Thr	Ile	Ser	Thr	Val	Gln	Ala	Glu	Asp	Leu	Ala	Val	Tyr	Phe	Cys	
65					70					75					80	
Gln	Gln	Asp	Tyr	Ser	Ser	Pro	Tyr	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	
				85					90					95		
Glu	Ile	Lys	Arg	Ala	Asp	Ala	Ala	Pro	Thr	Val	Ser	Ile	Phe	Pro	Pro	
			100					105					110			
Ser	Ser	Glu	Gln	Leu	Thr	Ser	Gly	Gly	Ala	Ser	Val	Val	Cys	Phe	Leu	
		115					120					125				
Asn	Asn	Phe	Tyr	Pro	Lys	Asp	Ile	Asn	Val	Lys	Trp	Lys	Ile	Asp	Gly	
	130					135					140					
Ser	Glu	Arg	Gln	Asn	Gly	Val	Leu	Asn	Ser	Trp	Thr	Asp	Gln	Asp	Ser	
145					150					155					160	
Lys	Asp	Ser	Thr	Tyr	Ser	Met	Ser	Ser	Thr	Leu	Thr	Leu	Thr	Lys	Asp	
				165					170					175		
Glu	Tyr	Glu	Arg	His	Asn	Ser	Tyr	Thr	Cys	Glu	Ala	Thr	His	Lys	Thr	
			180					185					190			
Ser	Thr	Ser	Pro	Ile	Val	Lys	Ser	Phe	Asn	Arg	Asn	Glu	Cys			
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<212> PRT
<213> Homo sapiens
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  1                   5                   10
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 His Thr Pro Glu Thr Ala Pro Leu Pro Ala Thr Val
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 Ala Val His Val Lys Ala Gln Glu Asp Glu Arg Ile Val Leu Val Asp
 20 25 30

 Asn Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser
 35 40 45

 Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val
 50 55 60

 Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg
 65 70 75 80

 Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro
 85 90 95

 Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn
 100 105 110

 Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr Thr Tyr Asp Arg
 115 120 125

 Asn Lys Cys Tyr Thr Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr
 130 135 140

 Lys Met Val Glu Thr Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
 145 150 155

<210> 23
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 <222> (150)
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 Gly Gly Ser Phe Ser Gly Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro
 20 25 30
 Gly Lys Gly Leu Glu Trp Ile Gly Glu Ile Asn His Ser Gly Ser Thr
 35 40 45
 Asn Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr
 50 55 60
 Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp
 65 70 75 80
 Thr Ala Val Tyr Tyr Cys Ala Arg Gly Thr Thr Glu Tyr Tyr Tyr Tyr
 85 90 95
 Tyr Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser
 100 105 110
 Ser Gly Ser Ala Ser Ala Pro Thr Leu Phe Pro Leu Val Ser Cys Glu
 115 120 125
 Asn Ser Pro Ser Asp Thr Ser Ser Val Ala Val Gly Cys Leu Ala Gln
 130 135 140
 Asp Phe Leu Pro Asp Xaa Ile Thr Phe Ser Trp Lys Tyr Lys Asn Asn
 145 150 155 160
 Ser Asp Ile Ser Ser Thr Arg Gly Phe Pro Ser Val Leu Arg Gly Gly
 165 170 175
 Lys Tyr Ala Ala Thr Ser Gln Val Leu Leu Pro Ser Lys Asp Val Met
 180 185 190
 Gln Gly Thr Asp Glu His Val Val Thr Gly Ser Lys Glu
 195 200 205

<210> 24

<211> 148

<212> PRT

<213> Homo sapiens

<400> 24

Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg
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 Ser Ser Gln Ser Leu Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp
 20 25 30
 Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Leu Gly
 35 40 45

Ser Asn Arg Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser
 50 55 60
 Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val
 65 70 75 80
 Gly Ile Tyr Tyr Cys Met Gln Thr Arg Gln Thr Pro Arg Thr Phe Gly
 85 90 95
 Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val
 100 105 110
 Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser
 115 120 125
 Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Glu His
 130 135 140
 Gln Lys Ser Pro
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 <213> Homo sapiens

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 Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly
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 Gly Ser Ile Ser Ser Tyr Tyr Trp Asn Trp Ile Arg Gln Pro Pro Gly
 20 25 30
 Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn
 35 40 45
 Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser
 50 55 60
 Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr
 65 70 75 80
 Ala Val Tyr Tyr Cys Ala Arg Asp Arg Gly Val Gly Ala Thr Gly Phe
 85 90 95
 Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Ser Ala
 100 105 110
 Ser Ala Pro Thr Leu Phe Pro Leu Val Ser Cys Glu Asn Ser Pro Ser
 115 120 125
 Asp Thr Ser Ser Val Ala Val Gly Cys Leu Ala Gln Asp Phe Leu Pro
 130 135 140
 Asp Ser Ile Thr Phe Ser Trp Lys Tyr Lys Asn Asn Ser Asp Ile Ser
 145 150 155 160

Ser Thr Arg Gly Phe Pro Ser Val Leu Arg Gly Gly Lys Tyr Ala Ala
165 170 175

Thr Ser Gln Val Leu Leu Pro Ser Lys Asp Val Met Gln Gly Thr Asp
180 185 190

Glu His Lys Val Cys
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<213> Homo sapiens
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Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asp Glu Leu Gly Trp Tyr
          20          25          30
Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile Tyr Val Ala Ser
          35          40          45
Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
  50          55          60
Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
  65          70          75          80
Thr Tyr Tyr Cys Leu Gln His Asn Gly Tyr Pro Arg Thr Phe Gly Gln
          85          90          95
Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe
          100          105          110
Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val
          115          120          125
Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Glu His Gln
          130          135          140
Lys Ser Pro
145

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<210> 27
<211> 203
<212> PRT
<213> Homo sapiens
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<400> 27
Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr
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Thr Phe Thr Ser Tyr Asp Ile Asn Trp Val Arg Gln Ala Thr Gly Gln
20 25 30

Gly	Leu	Glu	Trp	Met	Gly	Trp	Met	Asn	Pro	Asn	Ser	Gly	Asn	Thr	Gly
		35					40					45			
Tyr	Ala	Gln	Lys	Phe	Gln	Gly	Arg	Val	Thr	Met	Asn	Arg	Asn	Thr	Ser
	50					55					60				
Ile	Ser	Thr	Ala	Tyr	Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr
	65				70					75					80
Ala	Val	Tyr	Tyr	Cys	Ala	Arg	Gly	Gly	His	Gly	Gly	Ser	Tyr	Phe	Tyr
				85					90					95	
Ser	Tyr	Tyr	Gly	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val
			100					105					110		
Ser	Ser	Gly	Ser	Ala	Ser	Ala	Pro	Thr	Leu	Phe	Pro	Leu	Val	Ser	Cys
		115					120					125			
Glu	Asn	Ser	Pro	Ser	Asp	Thr	Ser	Ser	Val	Ala	Val	Gly	Cys	Leu	Ala
	130					135					140				
Gln	Asp	Phe	Leu	Pro	Asp	Ser	Ile	Thr	Phe	Ser	Trp	Lys	Tyr	Lys	Asn
	145				150					155					160
Asn	Ser	Asp	Ile	Ser	Ser	Thr	Arg	Gly	Phe	Pro	Ser	Val	Leu	Arg	Gly
			165						170					175	
Gly	Lys	Tyr	Ala	Ala	Thr	Ser	Gln	Val	Leu	Leu	Pro	Ser	Lys	Asp	Val
			180					185					190		
Met	Gln	Gly	Thr	Asp	Glu	His	Val	Val	Cys	Lys					
		195					200								

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<210> 28
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<212> PRT
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His Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys
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Ser Ser Gln Ser Val Leu Tyr Ser Phe Asn Asn Lys Asn Tyr Leu Ala
          20                      25           30

Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Trp
      35                     40               45

Ala Ser Thr Arg Glu Ser Gly Val Pro Asp Arg Phe Gly Gly Ser Gly
    50                      55           60

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp
   65                70                   75           80

Val Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Thr Pro Arg Thr Phe
            85                 90           95
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Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser
 100 105 110
 Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala
 115 120 125
 Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Glu
 130 135 140
 His Gln Lys Ser Pro
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<210> 29
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 <213> Homo sapiens

<400> 29
 Glu Val Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser
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 Gly Tyr Thr Phe Thr Ser Tyr Asp Ile Asn Trp Val Arg Gln Ala Thr
 20 25 30
 Gly Gln Gly Leu Glu Trp Met Gly Trp Met Asn Pro Asn Ser Gly Asn
 35 40 45
 Thr Gly Tyr Ala Gln Lys Phe Gln Gly Arg Val Thr Met Thr Arg Asn
 50 55 60
 Thr Ser Ile Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu
 65 70 75 80
 Asp Thr Ala Val Tyr Tyr Cys Ala Arg Glu Glu Trp Leu Val Arg Tyr
 85 90 95
 Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 100 105 110
 Gly Ser Ala Ser Ala Pro Thr Leu Phe Pro Leu Val Ser Cys Glu Asn
 115 120 125
 Ser Pro Ser Asp Thr Ser Ser Val Ala Val Gly Cys Leu Ala Gln Asp
 130 135 140
 Phe Leu Pro Asp Ser Ile Thr Phe Ser Trp Lys Tyr Lys Asn Asn Ser
 145 150 155 160
 Asp Ile Ser Ser Thr Arg Gly Phe Pro Ser Val Leu Arg Gly Gly Lys
 165 170 175
 Tyr Ala Ala Thr Ser Gln Val Leu Leu Pro Ser Lys Asp Val Met Gln
 180 185 190
 Gly Thr Asp Glu His Lys Val
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<210> 30
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<220>
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 <222> (140)
 <223> Variable amino acid

<400> 30
 Gly Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
 1 5 10 15
 Ile Thr Cys Arg Ala Ser Gln Asp Ile Arg Asp Asn Leu Gly Trp Tyr
 20 25 30
 Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile Tyr Ala Ala Ser
 35 40 45
 Asn Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
 50 55 60
 Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
 65 70 75 80
 Thr Tyr Tyr Cys Leu Gln Tyr Lys Thr Tyr Pro Trp Thr Phe Gly Gln
 85 90 95
 Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe
 100 105 110
 Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val
 115 120 125
 Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Xaa Lys Glu His Gln
 130 135 140
 Lys Ser Pro
 145

<210> 31
 <211> 202
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MOD_RES
 <222> (147)
 <223> Variable amino acid

<220>
 <221> MOD_RES
 <222> (151)
 <223> Variable amino acid

<400> 31

Lys Leu Pro Glu Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser
 1 5 10 15
 Phe Ser Gly Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly
 20 25 30
 Leu Glu Trp Ile Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn
 35 40 45
 Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn
 50 55 60
 Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val
 65 70 75 80
 Tyr Tyr Cys Ala Arg Gly Ala Ala Glu Tyr Tyr Tyr Tyr Tyr Tyr Gly
 85 90 95
 Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Ser
 100 105 110
 Ala Ser Ala Pro Thr Leu Phe Pro Leu Val Ser Cys Glu Asn Ser Pro
 115 120 125
 Ser Asp Thr Ser Ser Val Ala Val Gly Cys Leu Ala Gln Asp Phe Leu
 130 135 140
 Pro Asp Xaa Ile Thr Phe Xaa Trp Lys Tyr Lys Asn Asn Ser Asp Ile
 145 150 155 160
 Ser Ser Thr Arg Gly Phe Pro Ser Val Leu Arg Gly Gly Lys Tyr Ala
 165 170 175
 Ala Thr Ser Gln Val Leu Leu Pro Ser Lys Asp Val Met Gln Gly Thr
 180 185 190
 Asp Glu His Val Val Thr Gly Ser Lys Glu
 195 200

<210> 32

<211> 143

<212> PRT

<213> Homo sapiens

<400> 32

Met Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser
 1 5 10 15
 Gln Ser Leu Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu
 20 25 30
 Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn
 35 40 45

Arg Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
 50 55 60
 Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Ile
 65 70 75 80
 Tyr Tyr Cys Met Gln Ser Leu Gln Ile Pro Arg Leu Phe Gly Pro Gly
 85 90 95
 Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 100 105 110
 Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 115 120 125
 Cys Leu Leu Ser Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp
 130 135 140

<210> 33
 <211> 190
 <212> PRT
 <213> Homo sapiens

<400> 33
 Ser Glu Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser
 1 5 10 15
 Gly Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 20 25 30
 Trp Ile Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser
 35 40 45
 Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe
 50 55 60
 Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
 65 70 75 80
 Cys Ala Arg Gly Gly Thr Thr Val Thr Phe Asp Ala Phe Asp Ile Trp
 85 90 95
 Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Ser Ala Ser Ala Pro
 100 105 110
 Thr Leu Phe Pro Leu Val Ser Cys Glu Asn Ser Pro Ser Asp Thr Ser
 115 120 125
 Ser Val Ala Val Gly Cys Leu Ala Gln Asp Phe Leu Pro Asp Ser Ile
 130 135 140
 Thr Phe Ser Trp Lys Tyr Lys Asn Asn Ser Asp Ile Ser Ser Thr Arg
 145 150 155 160
 Gly Phe Pro Ser Val Leu Arg Gly Gly Lys Tyr Ala Ala Thr Ser Gln
 165 170 175

Val Leu Leu Pro Ser Lys Asp Val Met Gln Gly Thr Asp Glu
 180 185 190

<210> 34
 <211> 147
 <212> PRT
 <213> Homo sapiens

<400> 34
 Leu Ala Val Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser
 1 5 10 15
 Gln Ser Val Leu Tyr Ser Phe Asn Asn Lys Asn Tyr Leu Ala Trp Tyr
 20 25 30
 Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser
 35 40 45
 Thr Arg Glu Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly
 50 55 60
 Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala
 65 70 75 80
 Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Thr Pro Arg Thr Phe Gly Gln
 85 90 95
 Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe
 100 105 110
 Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val
 115 120 125
 Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp
 130 135 140
 Lys Val Ile
 145

<210> 35
 <211> 149
 <212> PRT
 <213> Homo sapiens

<400> 35
 Asn Pro Gln Thr Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser
 1 5 10 15
 Leu Ile Thr Arg Gly Val Gly Val Asp Trp Ile Arg Gln Pro Pro Gly
 20 25 30
 Lys Ala Leu Gln Trp Leu Ala Leu Ile Tyr Trp Asn Asp Asp Lys Arg
 35 40 45
 Tyr Ser Pro Ser Leu Lys Ser Arg Leu Thr Ile Thr Lys Asp Thr Ser
 50 55 60

Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr
 65 70 75 80
 Ala Thr Tyr Tyr Cys Ala His His Phe Phe Asp Ser Ser Gly Tyr Tyr
 85 90 95
 Pro Phe Asp Ser Trp Gly Gln Gly Thr Leu Val Ser Val Ser Ser Ala
 100 105 110
 Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser
 115 120 125
 Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 130 135 140
 Pro Glu Pro Val Thr
 145

<210> 36
 <211> 148
 <212> PRT
 <213> Homo sapiens

<400> 36
 Val Thr Gln Ser Pro Leu Ser Leu Ser Val Thr Pro Gly Gln Pro Ala
 1 5 10 15
 Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser Asp Gly Lys
 20 25 30
 Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Pro Pro Gln Leu
 35 40 45
 Leu Ile Tyr Glu Ala Phe Asn Arg Phe Ser Gly Val Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val
 65 70 75 80
 Glu Ala Glu Asp Val Gly Leu Tyr Tyr Cys Met Gln Ser Ile Glu Leu
 85 90 95
 Pro Phe Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val
 100 105 110
 Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys
 115 120 125
 Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg
 130 135 140
 Lys Glu Arg Val
 145

<210> 37
 <211> 173
 <212> PRT
 <213> Homo sapiens

<400> 37
 Gly Glu Gly Leu Val Lys Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala
 1 5 10 15
 Ala Ser Gly Phe Thr Phe Ser Ser Tyr Ser Met Asn Trp Val Arg Gln
 20 25 30
 Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Ser Ser Ser
 35 40 45
 Ser Tyr Ile Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
 50 55 60
 Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
 65 70 75 80
 Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Ser Gly Trp
 85 90 95
 Tyr Glu Asp Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
 100 105 110
 Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys
 115 120 125
 Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys
 130 135 140
 Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu
 145 150 155 160
 Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
 165 170

<210> 38
 <211> 101
 <212> PRT
 <213> Homo sapiens

<400> 38
 Leu Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
 1 5 10 15
 Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ile
 20 25 30
 Tyr Leu Ala Trp Phe Gln Gln Arg Pro Gly Lys Ala Pro Lys Ser Leu
 35 40 45
 Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Lys Phe Ser
 50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
 65 70 75 80
 Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Pro
 85 90 95
 Phe Thr Phe Gly Pro
 100

<210> 39
 <211> 159
 <212> PRT
 <213> Homo sapiens

<400> 39
 Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ile Thr Arg Gly Val Gly
 1 5 10 15
 Val Asp Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Gln Trp Leu Ala
 20 25 30
 Leu Ile Tyr Trp Asn Asp Asp Lys Arg Tyr Ser Pro Ser Leu Lys Ser
 35 40 45
 Arg Leu Thr Ile Thr Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr
 50 55 60
 Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala His
 65 70 75 80
 His Phe Phe Asp Ser Ser Gly Tyr Tyr Pro Phe Asp Ser Trp Gly Gln
 85 90 95
 Gly Thr Leu Val Ser Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 100 105 110
 Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
 115 120 125
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 130 135 140
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Gln Leu
 145 150 155

<210> 40
 <211> 167
 <212> PRT
 <213> Homo sapiens

<400> 40
 Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala
 1 5 10 15
 Ala Ser Gly Phe Thr Phe Ser Ser Tyr Ala Met Ser Trp Val Arg Gln
 20 25 30

Ala	Pro	Gly 35	Lys	Gly	Leu	Glu	Trp 40	Val	Ser	Thr	Ile	Ser 45	Val	Ser	Gly
Ile	Thr 50	Thr	Tyr	Tyr	Val	Asp 55	Ser	Val	Lys	Gly	Arg 60	Phe	Thr	Ile	Ser
Arg 65	Asp	Asn	Ser	Lys	Asn 70	Ile	Leu	Tyr	Leu	Gln 75	Met	Asn	Ser	Leu	Arg 80
Ala	Glu	Asp	Thr	Ala 85	Val	Tyr	Tyr	Cys	Ala 90	Lys	Arg	Ile	Phe	Gly 95	Val
Val	Trp	Gly 100	Gln	Gly	Thr	Leu	Val 105	Thr	Val	Ser	Ser	Ala	Ser 110	Thr	Lys
Gly	Pro 115	Ser	Val	Phe	Pro	Leu	Ala 120	Pro	Cys	Ser	Arg	Ser 125	Thr	Ser	Glu
Ser 130	Thr	Ala	Ala	Leu	Gly 135	Cys	Leu	Val	Lys	Asp 140	Tyr	Phe	Pro	Glu	Pro
Val 145	Thr	Val	Ser	Trp	Asn 150	Leu	Gly	Ala	Leu	Thr 155	Ser	Gly	Val	His	Thr 160
Phe	Pro	Ala	Val	Leu 165	Gln	Ser									

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<210> 41
<211> 164
<212> PRT
<213> Homo sapiens
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<400> 41

Gly 1	Ile	Arg	Leu	Asp 5	Ile	Gln	Leu	Thr	Gln 10	Ser	Pro	Ser	Ser	Leu 15	Ser
Ala	Ser	Val	Gly 20	Asp	Arg	Val	Thr	Ile 25	Thr	Cys	Arg	Ala	Ser 30	Gln	Gly
Ile	Ser	Ile	Tyr 35	Leu	Ala	Trp	Phe 40	Gln	Gln	Arg	Pro	Gly 45	Lys	Ala	Pro
Lys	Ser 50	Leu	Ile	Tyr	Ala	Ala 55	Ser	Ser	Leu	Gln	Ser 60	Gly	Val	Pro	Ser
Lys 65	Phe	Ser	Gly	Ser	Gly 70	Ser	Gly	Thr	Asp	Phe 75	Thr	Leu	Thr	Ile	Ser 80
Ser	Leu	Gln	Pro	Glu 85	Asp	Phe	Ala	Thr	Tyr 90	Tyr	Cys	Gln	Gln	Tyr 95	Asn
Ser	Tyr	Pro	Phe 100	Thr	Phe	Gly	Pro	Gly 105	Thr	Lys	Val	Asp	Ile 110	Lys	Arg
Thr	Val 115	Ala	Ala	Pro	Ser	Val	Phe 120	Ile	Phe	Pro	Pro	Ser 125	Asp	Glu	Gln

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 130 135 140

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 145 150 155 160

Gly Lys Pro Asn

<210> 42
 <211> 35
 <212> DNA
 <213> Homo sapiens

<400> 42
 gactacgaat tcttgtagga ccggcgagga atagg 35

<210> 43
 <211> 37
 <212> DNA
 <213> Homo sapiens

<400> 43
 gactacgggc ccggtgagaa cttggaatct tgcaagc 37

<210> 44
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 44
 gcagtctcct aaactgct 18

<210> 45
 <211> 15
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 45
 acctgcaagg ccagt 15

<210> 46
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 46
 cactcattcc tgttgaag 18

<210> 47
 <211> 500
 <212> DNA
 <213> Homo sapiens

<400> 47
 tcagaagaag tgaagtcaag atgaagaacc atttgctttt ctggggagtc ctggcggttt 60
 ttattaaggc tgttcattgtg aaagcccaag aagatgaaag gattgttctt gttgacaaca 120
 aatgtaagtg tgcccggatt acttccagga tcatccgttc ttccgaagat cctaattgagg 180
 acattgtgga gagaaacatc cgaattattg ttctcttgaa caacagggag aatatctctg 240
 atcccacctc accattgaga accagatttg tgtaccattt gtctgacctc tgtaaaaaat 300
 gtgatcctac agaagtggag ctggataatc agatagttac tgctaccag agcaatatct 360
 gtgatgaaga cagtgtctaca gagacctgct acacttatga cagaaacaag tgctacacag 420
 ctgtggtccc actcgtatat ggtggtgaga ccaaaatggt ggaaacagcc ttaacccag 480
 atgcttgcta tcctgactaa 500

<210> 48
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 48
 gaattcagaa gaagtgaagt c 21

<210> 49
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 49
 gtcgactatg cagtcagcaa tgac 24

<210> 50
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 50
 tgcaggaatc agacccagtc 20

<210> 51
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 51
 gtcaggctgg aactgaggag ca 22

<210> 52
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 52
 tcatttggtg atcagcact 19

<210> 53
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 53
 gctagctgag gagacggtga ccagg 25

<210> 54
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 54
 tcatttggtg atcagcact 19

 <210> 55
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 55
 ggatcctgag gagacggtga cg 22

 <210> 56
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 56
 ggattagcat ccgccccaac cttt 24

 <210> 57
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 57
 gtcgacgcac acacagagcg gccca 24

 <210> 58
 <211> 37
 <212> DNA
 <213> Homo sapiens

 <400> 58
 gactacgaat tcggaccggc gaggaatagg aatcatg 37

<210> 59
 <211> 43
 <212> DNA
 <213> Homo sapiens

<400> 59
 ggatggtggt ggtagctagc acgcgagcg tgatgatggc ctg 43

<210> 60
 <211> 33
 <212> DNA
 <213> Mus musculus

<400> 60
 gactacgaat tcacgagcg acatggcggc ggc 33

<210> 61
 <211> 43
 <212> DNA
 <213> Mus musculus

<400> 61
 ggatggtggt ggtagctagc acacgcagt agatggtttc ccg 43

<210> 62
 <211> 617
 <212> DNA
 <213> Homo sapiens

<220>
 <221> modified_base
 <222> (234)
 <223> a, c, g, t, unknown, or other

<400> 62
 ggactgttga agccttcgga gaccctgtcc ctcacctgcg ctgtctatgg tgggtccttc 60
 agtgggttact actggagctg gatccgccag cccccaggga aggggctgga gtggattggg 120
 gaaatcaatc atagtggag caccaactac aaccgcgtccc tcaagagtcg agtcaccata 180
 tcagtagaca cgtccaagaa ccagttctcc ctgaagctga gctctgtgac cgcngcggac 240
 acggctgtgt attactgtgc gagaggcact acggaatatt actactacta ctacggtatg 300
 gacgtctggg gccaaaggac cacggtcacc gtctcctcag ggagtgcac cgccccaacc 360
 cttttccccc tegtctctctg tgagaattcc ccgtcggata cgagcagcgt ggccgttggc 420
 tgcctcgac aggaattcct tcccgactyc atcactttct cctggaaata caagaacaac 480
 tctgacatca gcagcaccgc gggcttccca tcagtcttga gagggggcaa gtacgcagcc 540
 acctcacagg tgcgtctgcc ttccaaggac gtcattgcagg gcacagacga acacgtggtg 600
 acgggatcca aagagta 617

<210> 63
 <211> 444
 <212> DNA
 <213> Homo sapiens

<400> 63
 ctctccctgc ccgtcacccc tggagagccg gcctccatct cctgcaggtc tagtcagagc 60

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ctcctgcata gtaatggata caactatattg gattgggtacc tgcagaagcc agggcagtc 120
ccacagctcc tgatctatatt ggggttctaata cgggcctccg ggggtccctga cagggttcagt 180
ggcagtggtat caggcacaga ttttacactg aaaatcagca gaggaggagc tgaggatggt 240
gggatttatt actgcatgca gactcgacaa actcctcgga cgttcggcca agggaccaag 300
gtggaaatca aacgaactgt ggctgcacca tctgtcttca tcttcccgc atctgatgag 360
cagttgaaat ctggaactgc ctctgttggtg tgctgtctga ataacttcta tcccagagag 420
gccaaagagc atcaaaagag tcca 444

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<210> 64
<211> 593
<212> DNA
<213> Homo sapiens

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<400> 64
ctgggtgaagc cttcggagac cctgtccctc acctgcactg tctctgggtgg ctccatcagt 60
agttactact ggaactggat ccggcagccc ccagggaagg gactggagtg gattgggtat 120
atctattaca gtgggagcac caactacaac ccctccctca agagtcgagt caccatatca 180
gtagacacgt ccaagaacca gttctccctg aagctgagct ctgtgaccgc tgcggacacg 240
gccgtgtatt actgtgagag agatagggga gtgggagcta ctggttttga ctactggggc 300
cagggaaacc tggtcacctg ctctcaggg agtgcacccg ccccaaccct tttcccctc 360
gtctcctgtg agaattcccc gtcggatacg agcagcgtgg ccgttggtg cctcgacag 420
gacttccttc ccgactccat cactttctcc tggaaataca agaacaactc tgacatcagc 480
agcaccggg gcttccccatc agtcctgaga gggggcaagt acgcagccac ctcacagggtg 540
ctgctgcctt ccaaggacgt catgcagggc acagacgaac acaagggtgtg cga 593

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<210> 65
<211> 441
<212> DNA
<213> Homo sapiens

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<400> 65
agccagtctc catcctccct gtctgcatct gtaggagaga gagtccaccat cacttgccgg 60
gcaagtcagg gcattagaga tgaattaggc tggatcacgc agaaaccagg gaaagcccct 120
aagcgctga tctatgttgc atccagtttg caaagtgggg tcccatcaag gttcagcggc 180
agtggatctg ggacagaatt cactctcaca atcagcagcc tgcagcctga agattttgca 240
acttattact gtctacagca taatggttac cctcggacgt tcggccaagg gaccaagggtg 300
gaaatcaaac gaactgtggc tgcaccatct gtcttcatct tcccgccatc tgatgagcag 360
ttgaaatctg gaactgcctc tgttggtgtg ctgctgaata acttctatcc cagagaggcc 420
aaagagcatc aaaagagtcc a 441

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<210> 66
<211> 610
<212> DNA
<213> Homo sapiens

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<400> 66
aagaagcctg gggcctcagt gaaggctctc tgcaaggctt ctggatacac cttcaccagt 60
tatgatataca actgggtgag acaggccact ggacaagggc ttgagtggat gggatggatg 120
aaccctaaca gtggtaacac aggctatgca cagaagtcc agggcagagt caccatgaac 180
aggaacacct ccataagcac agcctacatg gagctgagca gcctgagatc tgaggacacg 240
gccgtgtatt actgtgagag aggggggtcat ggtgggagct acttctactc ctaytacggt 300
atggacgtct ggggccaggg gaccacggtc accgtctcct cagggagtgc atccgccccca 360
acccttttcc ccctcgtctc ctgtgagaat tccccgtcgg atacgagcag cgtggccgtt 420
ggctgcctcg cacaggactt ccttcccagc tccatcactt tctcctggaa atacaagaac 480
aactctgaca tcagcagcac ccggggcttc ccatcagtcc tgagaggggg caagtacgca 540

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gccacctcac aggtgctgct gccttccaag gacgtcatgc agggcacaga cgaacacgtg 600
gtgtgcaaac 610

<210> 67
<211> 447
<212> DNA
<213> Homo sapiens

<400> 67
cactccctgg ctgtgtctct gggcgagagg gccaccatca actgcaagtc cagccagagt 60
gttttataca gttttaacaa taagaactac ttagcttggg accagcagaa accaggacag 120
cctcctaagc tgctcattta ctgggcatct acccggaat ccgggggtccc tgaccgattc 180
ggtggcagcg ggtctgggac agatttcact ctccaccatca gcagcctgca ggctgaagat 240
gtggcagttt attactgtca gcaatattat agtactcctm ggacgttcgg ccaagggacc 300
aaggtggaaa tcaaacgaac tgtggctgca ccactctgtct tcatcttccc gccatctgat 360
gagcagttga aatctggaac tgcctctgtt gtgtgctgct tgaataactt ctatcccaga 420
gaggcctaaag agcatcaaaa gagtcca 447

<210> 68
<211> 599
<212> DNA
<213> Homo sapiens

<400> 68
gaggtgaaga agcctggggc ctccagtgaag gtctcctgca aggcttcttg ataccacctc 60
accagttatg atatcaactg ggtgcgacag gccactggac aagggtctga gtggatggga 120
tgatgaacc ctaacagtgg taacacaggc tatgcacaga agttccaggg cagagtcacc 180
atgaccagga acacctccat aagcacagcc tacatggagc tgagcagcct gagatctgag 240
gacacggccg tgtattactg tgcgagagag gagtggctgg tacgttacta cggtatggac 300
gtctggggcc aagggaaccac ggtcaccgtc tcctcaggga gtgcatccgc cccaaccctt 360
ttccccctcg tctcctgtga gaattccccg tcggatacga gcagcgtggc cgttggctgc 420
ctcgcacagg acttccttcc cgactccatc actttctcct ggaaatacaa gaacaactct 480
gacatcagca gcacccgggg ctccccatca gtcttgagag ggggcaagta cgcagccacc 540
tcacaggtgc tgctgccttc caaggacgtc atgcagggca cagacgaaca caaggtgtg 599

<210> 69
<211> 441
<212> DNA
<213> Homo sapiens

<400> 69
ggcagtcctc catcctccct gtctgcatct gtaggagaca gagtccaccat cacttgccgg 60
gcaagtcagg acattagaga taatttaggc tggtatcagc agaaaccagg gaaagcccct 120
aagcgctga tctatgctgc atccaatttg caaagtgggg tcccatcaag gttcagcggc 180
agtggatctg ggacagaatt cactctcaca atcagcagcc tgcagcctga agattttgca 240
acttattact gtctacagta taaaacttac ccgtggacgt tcggccaagg gaccaagggtg 300
gaaatcaaac gaactgtggc tgcaccatct gtcttcatct tcccgccatc tgatgagcag 360
ttgaaatctg gaactgcctc tgttgtgtgc ctgctgaata acttctatcc cagagaggmc 420
aaagagcatc aaaagagtcc a 441

<210> 70
<211> 607
<212> DNA
<213> Homo sapiens

<400> 70

```

aagcttccgg agaccctgtc cctcacctgc gctgtctatg gtgggtcctt cagtgggttac 60
tactggagct ggatccgcca gccccaggg aaggggctgg agtggattgg ggaaatcaat 120
catagtggaa gcaccaacta caaccctgcc ctcaagagtc gagtcccat atcagtagac 180
acgtccaaga accagttctc cctgaagctg agctctgtga ccgccgcgga cacggctgtg 240
tattactgtg cgagaggggc agctgaatat tactactact actacggtat ggacgtctgg 300
ggccaagggg ccacggtcac cgtctcctca gggagtgcac ccgccccaac ctttttcccc 360
ctcgtctcct gtgagaattc cccgtcggat acgagcagcg tggccgttgg ctgcctcgca 420
caggacttcc ttcccgacty catcactttc tyctggaaat acaagaacaa ctctgacatc 480
agcagcaccg ggggcttccc atcagtcctg agagggggca agtacgcagc cacctcacag 540
gtgctgctgc cttccaagga cgtcatgcag ggcacagacg aacacgtggg gacgggatcc 600
aaagagt
607

```

<210> 71

<211> 431

<212> DNA

<213> Homo sapiens

<400> 71

```

atgcccgta cccctggaga gccggcctcc atctcctgca ggtctagtca gagcctcctg 60
catagtaatg gatacaacta tttggactgg tacctgcaga agccagggca gtctccacag 120
ctcctgatct atttgggttc taatcggggc tcgggggtcc ctgacagggt cagtggcagt 180
ggatcaggca cagattttac actgaaaatc agcagagtgg aggctgagga tgttgggatt 240
tattactgca tgcaaagtct acaaattccc cggcttttcg gccctgggac caaagtggat 300
atcaaacgaa ctgtggctgc accatctgtc ttcattctcc cgccatctga tgagcagttg 360
aaatctggaa ctgcctctgt tgtgtgcctg ctgagtaact tctatcccag agaggccaaa 420
gtacagtgga a
431

```

<210> 72

<211> 570

<212> DNA

<213> Homo sapiens

<400> 72

```

tcggagaccc tgtccctcac ctgcgctgtc tatgggtgggt ccttcagtgg ttactactgg 60
agctggatcc gccagcccc agggaagggg ctggagtgga ttggggaaat caatcatagt 120
ggaagcacca actacaaccc gtccctcaag agtcgagtca ccatatcagt agacacgtcc 180
aagaaccagt tctccctgaa gctgagttct gtgaccgccg cggacacggc tgtgtattac 240
tgtgcgagag gcgggactac agtaactttt gatgcttttg atatctgggg ccaagggaca 300
atggtcaccg tctcttcagg gagtgcaccc gccccaaccc ttttccccct cgtctcctgt 360
gagaattccc cgtcggatac gagcagcgtg gccgttggct gcctcgaca ggacttcctt 420
cccgactcca tcactttctc ctggaaatac aagaacaact ctgacatcag cagcaccggg 480
ggcttcccat cagtctgag agggggcaag tacgcagcca cctcacaggg gctgctgcct 540
tccaaggacg tcatgcaggg cacagacgaa
570

```

<210> 73

<211> 441

<212> DNA

<213> Homo sapiens

<400> 73

```

ctggctgtgt ctctgggcga gagggccacc atcaactgca agtccagcca gagtgtttta 60
tacagtttta acaataagaa ctacttagct tggtagcagc agaaaccagg acagcctcct 120
aagctgctca tttactgggc atctaccggg gaatccgggg tccctgaccg attcagtggc 180

```

```

agcgggtctg ggacagattt cactctcacc atcagcagcc tgcaggctga agatgtggca 240
gtttattact gtcagcaata ttatagtact cctcggacgt tcggccaagg gaccaagggtg 300
gaaatcaaac gaactgtggc tgcaccatct gtcttcatct tcccgccatc tgatgagcag 360
ttgaaatctg gaactgcctc tgttgtgtgc ctgctgaata acttctatcc cagagaggcc 420
aaagtacagt ggaaggtgat c                                     441

```

```

<210> 74
<211> 447
<212> DNA
<213> Homo sapiens

```

```

<400> 74
aaccacaga cgacctcac gctgacctgc accttctctg ggttctcact cattaccctg 60
ggagtgggtg tggattggat ccgtcagccc ccaggaaagg ccctgcagtg gctcgactc 120
atattattga atgatgataa gcgctacagt ccatctctga agagcaggct caccatcacc 180
aaggacacct ccaaaaacca ggtggctcctc acaatgacca acatggaccc tgtggacaca 240
gccacatatt actgtgcaca ccatttcttt gatagtagtg gttattacc ttttgactcc 300
tgggggccagg gaacctgggt ctccgtctcc tcagcctcca ccaagggccc atcggtcttc 360
cccctggcgc cctgctccag gagcacctcc gagagcacag cggcctctgg ctgacctggc 420
aaggactact tccccgaacc ggtgacg                                     447

```

```

<210> 75
<211> 445
<212> DNA
<213> Homo sapiens

```

```

<400> 75
gtgactcagt ctccactctc tctgtccgtc acccctggac agccggcctc catctcctgc 60
aagtctagtc agagcctcct gcatagtgat ggaaagacct atttgtattg gtacctgcag 120
aagccaggcc agcctccaca gctcctgac tatgaagctt tcaaccggtt ctctggagtg 180
ccagataggt tcagtggcag cgggtcaggg acagatttca cactgaaaat cagccgggtg 240
gaggctgagg atggtggact ttattattgc atgcaaagta tagagcttcc gttcactttc 300
ggcggaggga ccaaggtgga gatcaaacga actgtggctg caccatctgt ctctcatctc 360
ccgccatctg atgagcagtt gaaatctgga actgcctctg ttgtgtgcct gctgaataac 420
ttctatccca gaaaagaaag agtcr                                     445

```

```

<210> 76
<211> 519
<212> DNA
<213> Homo sapiens

```

```

<400> 76
ggggaaggcc tgggtcaagcc tgggggggtcc ctgagactct cctgtgcagc ctctggattc 60
accttcagta gctatagcat gaactgggtc cgccaggctc cagggaaggg gctggagtgg 120
gtctcatcca ttagtagtag tagtagttac atatactacg cagactcagt gaagggccga 180
ttcaccatct ccagagacaa cgccaagaac tcactgtatc tgcaaatgaa cagcctgaga 240
gccgaggaca cggtgtgta ttactgtgcg agggatagca gtggctggta tgaggactac 300
tttgactact ggggccaggg aaccctgggtc accgtctcct cagcctccac caagggccca 360
tcggtcttcc ccctggcgcc ctgctccagg agcacctccg agagcacagc ggccctgggc 420
tgctgtgtca aggactactt cccgaaccg gtgacgggtg cgtggaactc aggcgctctg 480
accagcggcg tgcacacctt cccagctgtc ctacagtca                                     519

```


<210> 77
 <211> 303
 <212> DNA
 <213> Homo sapiens

<400> 77
 cttgacatcc agctgaccca gtctccgtcc tctactgtctg catctgtagg agacagagtc 60
 accatcactt gtcgggagag tcaggacatt agcatttatt tagcctggtt tcagcagaga 120
 ccagggaag cccctaagtc cctgatctat gctgcatcca gtttgcaaag tgggggtcca 180
 tcaaagttca gcggcagtg atctgggaca gatttctact tcaccatcag cagcctgcag 240
 cctgaagatt ttgcaactta ttactgcca caatataata gttatccatt cactttcggg 300
 cc 303

<210> 78
 <211> 477
 <212> DNA
 <213> Homo sapiens

<400> 78
 ctgacctgca ccttctctgg gttctcactc attaccctgt gagtgggtgt ggattggatc 60
 cgtcagcccc caggaaaggc cctgcagtgg ctgcgactca tttattggaa tgatgataag 120
 cgctacagtc catctctgaa gagcaggctc accatcacca aggacacct caaaaaccag 180
 gtggtcctca caatgaccaa catggaccct gtggacacag ccacatatta ctgtgcacac 240
 catttctttg atagtagtgg ttattaccct tttgactcct gggggccagg aacctgggtc 300
 tccgtctcct cagcctccac caagggccca tccgtcttcc ccctggcgcc ctgctccagg 360
 agcacctccg agagcacagc ggccctgggc tgctgtgtca aggactactt ccccgaaacc 420
 gtgacggtgt cgtggaactc aggcgctctg accagcggcg tgcacacctt ccagctg 477

<210> 79
 <211> 503
 <212> DNA
 <213> Homo sapiens

<400> 79
 gggggaggct tggtagagcc tgggggggtcc ctgagactct cctgtgcagc ctctggattc 60
 acttttagca gctatgccat gagctgggtc cgccaggctc cagggaaggg gctggagtgg 120
 gtctcaacta ttagtgtagg tggtagtacc acatactacg tagactccgt gaagggccgg 180
 ttaccatct ccagagacaa ttccaagaac attctgtatc tgcaaatgaa cagcctgaga 240
 gccgaggaca cgcccgata ttactgtgcg aaacggattt ttggagtggg ctggggccag 300
 ggaaccctgg tcaccgtctc ctgagcctcc accaagggcc catcggtctt cccctggcg 360
 ccctgctcca ggagcacctc cgagagcaca gcggccctgg gctgcctggg caaggactac 420
 ttccccgaac cgggtgacgg gtctgtggaac ttaggcgctc tgaccagcgg cgtgcacacc 480
 ttcccagctg tctacagtc cta 503

<210> 80
 <211> 494
 <212> DNA
 <213> Homo sapiens

<400> 80
 ggaattcggc ttgatattca gctgactcag tctccatcct cactgtctgc atctgtagga 60
 gacagagtca ccatcacttg tcgggagagt cagggcatta gcatttattt agcctgggtt 120
 cagcagagac cagggaagc cctaagtc ctgatctatg ctgcatccag tttgcaaagt 180
 ggggtcccat caaagttcag cggcagtggg tctgggacag atttctactt caccatcagc 240
 agcctgcagc ctgaagattt tgcaacttat tactgccaac aatataatag ttaccattc 300

```

actttcggcc ctgggaccaa agtggatata aaacgaactg tggtgcacc atctgtcttc 360
atcttcccg cactctgatga gcagttgaaa tctgggaactg cctctgttgt gtgcctgctg 420
aataacttct atcccagaga ggccaaagta cagtggaaagg tggataacgc cctccaatcg 480
ggtaagccga attc                                     494

```

```

<210> 81
<211> 1774
<212> DNA
<213> Mus musculus

```

```

<400> 81
atgtacttgg gactgaacta tgtattcata gtttttctct taaatgggtg ccagagtga 60
gtgaagcttg aggagtctgg aggaggcttg gtgcaacctg gaggatccat gaaactctcc 120
tgtgttgcc ctggattcac ttccagtaac tactggatga actgggtccg ccagtctcca 180
gagaaggggc ttgagtgggt tgctgaaatt agattgaaat ctaataatta tgcaacacat 240
tatgcgagtg ctgtgaaagg gaggttcacc atctcaagag atgattccaa aagtagtgtc 300
tacctgcaaa tgaacaactt aagagctgaa gacactggca ttattactg tacggattac 360
gatgcttact gggggccaagg gactctgggtc actgtctctg cagagagtca gtccttccca 420
aatgtcttcc ccctcgtctc ctgcgagagc cccctgtctg ataagaatct ggtggccatg 480
ggctgcttg cccgggactt cctgcccagc accatttcct tcacctggaa ctaccagaac 540
aacactgaag tcatccaggg tatcagaacc ttcccaacac tgaggacagg gggcaagtac 600
ctagccacct cgcaggtgtt gctgtctccc aagagcatcc ttgaagggtc agatgaatac 660
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gtcgagaga tgaaccccaa tgtaaattgtg ttctgtccac cacgggatgg cttctctggc 780
cctgcaccac gcaagtctaa actcatctgc gagggcacga acttcaactc aaaaccgatc 840
acagtatcct ggctaaagga tgggaagctc gtggaatctg gcttcaccac agatccgggtg 900
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ttcaccatcc cccctcctt tgccgacatc ttctcagca agtccgctaa cctgacctgt 1140
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gaaccactgg aaaccaaatt taaaatcatg gaaagccatc ccaatggcac cttcagtgtc 1260
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cacaacatc cacctgctgt gtacctgtc ccaccagctc gtgagcaact gaacctgagg 1440
gagtcagcca cagtcacctg cctgggtaag ggcttctctc ctgcagacat cagtgtgcag 1500
tggcttcaga gagggcaact cttgccccaa gagaagtatg tgaccagtgc cccgatgcca 1560
gagcctgggg ccccgagctt ctactttacc cacagcatcc tgactgtgac agaggaggaa 1620
tggaaactcc gagagaccta tacctgtgtt gtaggccacg aggccctgcc acacctgggtg 1680
accgagagga ccgtggacaa gtccactggt aaaccacac tgtacaatgt ctccctgatc 1740
atgtctgaca caggcggcac ctgctattga ccat                                     1774

```

```

<210> 82
<211> 81
<212> PRT
<213> Homo sapiens

```

```

<400> 82
Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr Asp Ile
 1             5             10            15
Asn Trp Val Arg Gln Ala Thr Gly Gln Gly Leu Glu Trp Met Gly Trp
      20             25             30

```

Met	Asn	Pro	Asn	Ser	Gly	Asn	Thr	Gly	Tyr	Ala	Gln	Lys	Phe	Gln	Gly
		35					40					45			
Arg	Val	Thr	Met	Thr	Arg	Asn	Thr	Ser	Ile	Ser	Thr	Ala	Tyr	Met	Glu
	50					55					60				
Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Ala	Arg
65					70				75						80

Gly

```
<210> 83
<211> 92
<212> PRT
<213> Homo sapiens
```

```

<400> 83
Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr Asp Ile
  1                      5                      10                      15
Asn Trp Val Arg Gln Ala Thr Gly Gln Gly Leu Glu Trp Met Gly Trp
                20                      25                      30
Met Asn Pro Asn Ser Gly Asn Thr Gly Tyr Ala Gln Lys Phe Gln Gly
          35                      40                      45
Arg Val Thr Met Thr Arg Asn Thr Ser Ile Ser Thr Ala Tyr Met Glu
      50                      55                      60
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
  65                      70                      75                      80
Glu Glu Trp Leu Val Arg Tyr Tyr Gly Met Asp Val
          85                      90

```

```
<210> 84
<211> 96
<212> PRT
<213> Homo sapiens
```

```

<400> 84
Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr Asp Ile
  1          5          10          15
Asn Trp Val Arg Gln Ala Thr Gly Gln Gly Leu Glu Trp Met Gly Trp
          20          25          30
Met Asn Pro Asn Ser Gly Asn Thr Gly Tyr Ala Gln Lys Phe Gln Gly
          35          40          45
Arg Val Thr Met Asn Arg Asn Thr Ser Ile Ser Thr Ala Tyr Met Glu
          50          55          60
Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
  65          70          75          80

```

Gly Gly His Gly Gly Ser Tyr Phe Tyr Ser Tyr Tyr Gly Met Asp Val
85 90 95

```
<210> 85
<211> 78
<212> PRT
<213> Homo sapiens
```

```
<400> 85
Ser Leu Thr Cys Ala Val Tyr Gly Gly Phe Ser Gly Tyr Tyr Trp Ser
 1                               5                      10             15

Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Glu Ile
                        20                25              30

Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys Ser Arg Val
      35                     40                   45

Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
   50                 55               60

Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 65                    70                  75
```

```
<210> 86
<211> 92
<212> PRT
<213> Homo sapiens
```

```

<400> 86
Ser Leu Thr Cys Ala Val Tyr Gly Gly Phe Ser Gly Tyr Tyr Trp Ser
 1                    5                      10                      15

Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Glu Ile
                20                    25                      30

Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys Ser Arg Val
          35                      40                      45

Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 50                    55                      60

Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Ala
65                      70                      75                      80

Ala Glu Tyr Tyr Tyr Tyr Tyr Tyr Gly Met Asp Val
          85                      90

```

<210> 87
 <211> 92
 <212> PRT
 <213> Homo sapiens

<400> 87
 Ser Leu Thr Cys Ala Val Tyr Gly Gly Phe Ser Gly Tyr Tyr Trp Ser
 1 5 10 15
 Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Glu Ile
 20 25 30
 Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys Ser Arg Val
 35 40 45
 Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 50 55 60
 Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Thr
 65 70 75 80
 Thr Glu Tyr Tyr Tyr Tyr Tyr Tyr Gly Met Asp Val
 85 90

<210> 88
 <211> 79
 <212> PRT
 <213> Homo sapiens

<400> 88
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp
 1 5 10 15
 Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile
 20 25 30
 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 35 40 45
 Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 50 55 60
 Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Ser Tyr Pro
 65 70 75

<210> 89
 <211> 79
 <212> PRT
 <213> Homo sapiens

<400> 89
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Arg Asp Asn
 1 5 10 15
 Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile
 20 25 30

Tyr Ala Ala Ser Asn Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 35 40 45

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 50 55 60

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Tyr Lys Thr Tyr Pro
 65 70 75

<210> 90

<211> 79

<212> PRT

<213> Homo sapiens

<400> 90

Glu Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asp Glu
 1 5 10 15

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile
 20 25 30

Tyr Val Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 35 40 45

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 50 55 60

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Gly Tyr Pro
 65 70 75

<210> 91

<211> 85

<212> PRT

<213> Homo sapiens

<400> 91

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser
 1 5 10 15

Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 20 25 30

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
 35 40 45

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 50 55 60

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
 65 70 75 80

Tyr Tyr Ser Thr Pro
 85

<210> 92
 <211> 86
 <212> PRT
 <213> Homo sapiens

<400> 92
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser
 1 5 10 15
 Phe Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 20 25 30
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
 35 40 45
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 50 55 60
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
 65 70 75 80
 Tyr Tyr Ser Thr Arg Thr
 85

<210> 93
 <211> 86
 <212> PRT
 <213> Homo sapiens

<400> 93
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser
 1 5 10 15
 Phe Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 20 25 30
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
 35 40 45
 Pro Asp Arg Phe Gly Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 50 55 60
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
 65 70 75 80
 Tyr Tyr Ser Thr Arg Thr
 85

<210> 94
 <211> 84
 <212> PRT
 <213> Homo sapiens

<400> 94
 Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
 1 5 10 15

Asn	Gly	Tyr	Asn	Tyr	Leu	Asp	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
			20				25						30		
Pro	Gln	Leu	Leu	Ile	Tyr	Leu	Gly	Ser	Asn	Arg	Ala	Ser	Gly	Val	Pro
			35				40						45		
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
			50				55						60		
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Ala
			65				70						75		
												80			
Leu	Gln	Thr	Pro												

```
<210> 95
<211> 86
<212> PRT
<213> Homo sapiens
```

```

<400> 95
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
 1          5          10          15
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
          20          25          30
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
          35          40          45
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 50          55          60
Ser Arg Val Glu Ala Glu Asp Val Gly Ile Tyr Tyr Cys Met Gln Thr
 65          70          75          80
Arg Gln Thr Pro Arg Thr
          85

```

```
<210> 96
<211> 86
<212> PRT
<213> Homo sapiens
```

```

<400> 96
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
  1             5             10             15
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
          20             25             30
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
      35             40             45

```


Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 50 55 60

Ser Arg Val Glu Ala Glu Asp Val Gly Ile Tyr Tyr Cys Met Gln Ser
 65 70 75 80

Leu Gln Ile Pro Arg Leu
 85

<210> 97
 <211> 80
 <212> PRT
 <213> Homo sapiens

<400> 97
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Tyr
 1 5 10 15

Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
 20 25 30

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Lys Phe Ser Gly
 35 40 45

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 50 55 60

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Pro Pro
 65 70 75 80

<210> 98
 <211> 83
 <212> PRT
 <213> Homo sapiens

<400> 98
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ile Tyr
 1 5 10 15

Leu Ala Trp Phe Gln Gln Arg Pro Gly Lys Ala Pro Lys Ser Leu Ile
 20 25 30

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Lys Phe Ser Gly
 35 40 45

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 50 55 60

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Phe Thr
 65 70 75 80

Phe Gly Pro

<210> 99
 <211> 83
 <212> PRT
 <213> Homo sapiens

<400> 99
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ile Tyr
 1 5 10 15
 Leu Ala Trp Phe Gln Gln Arg Pro Gly Lys Ala Pro Lys Ser Leu Ile
 20 25 30
 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Lys Phe Ser Gly
 35 40 45
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
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 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Phe Thr
 65 70 75 80
 Phe Gly Pro

<210> 100
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 Val Leu Ala Phe Gln Glu
 1 5

18

<210> 101
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<400> 101
 Val Leu Ala Phe Gln Glu
 1 5

<210> 102
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 <212> DNA
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<220>
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<400> 102
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 Arg Val Leu Ala Phe Gln Glu
 1 5

21

<210> 103
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<400> 103
 Arg Val Leu Ala Phe Gln Glu
 1 5

<210> 104
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 <222> (4)..(21)

<400> 104
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 Val Leu Ala Phe Gln Glu
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21

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<400> 105
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 Arg Val Arg Ser
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<210> 107
<211> 5
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<400> 107
Arg Val Arg Ser His
1 5

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